DRAINAGE & EROSION CONTROL IN NORTHWESTERN ALBERTA:

FUNDING AND PLANNING ISSUES

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A. BACKGROUND

From the earliest days of agricultural settlement to the present time, the problem of drainage and erosion control have remained a serious and pressing issue in the Peace River region. The past 10 years has seen an increased awareness of, and concern for, the problems caused by water. In 1975, the Agriculture Service Boards in the Peace Region petitioned the Alberta Government to thoroughly investigate the drainage and erosion problem. As a consequence, in 1976 the Environment Council of Alberta conducted a research program together with a series of public hearings. By 1978 an Interdepartmental Action Plan on Erosion Control in Northwestern Alberta (Appendix A) was released, in response to the recommendations in the ECA's final report. The Action Plan essentially forms a blue-print for a coordinated approach to monitor, plan and fund erosion control projects.

As a result, a number of erosion projects and government activities have taken place. Recently, government funding for projects has been revised and up-dated. There is also a stronger awareness among municipal governments and the agricultural sector of the importance of erosion control. These two features are recent positive improvements relative to the erosion control problem.

While some progress is evident much remains to be done. The problems of drainage and erosion are difficult to resolve. Sometimes minor problems of relatively low cost remain unresolved thus becoming ever more expensive to rectify later.

This summary overview by the Northern Alberta Development Council examines in a preliminary fashion the central issues of drainage and erosion control in northwestern Alberta; essentially the problem of capital costs and the issue of priority planning for projects; and provides recommendations for government consideration.

The Nature of the Erosion/Drainage Problem

The first recommendation of the 1978 Environment Council of Alberta report was "that Northwestern Alberta be recognized as an area that differs from the rest of Alberta in characteristics and conditions related to erosion susceptibility and that agricultural practices and land use and water management systems specifically suited to the area be developed and adapted."

That strong statement speaks to the unique set of circumstances that makes erosion such a serious problem in the Peace country.

The E.C.A's Information Bulletin 3 sums up the situation sufficiently:

"1. The soil is mainly composed of very fine, glacially-deposited silts and clays which become readily suspended in water.

2. Many of these soils form impervious hardpans which keep water on the surface.

3. As the water runs off, it may carry a great deal of suspended material. The resultant run-off waters become very effective eroding agents.

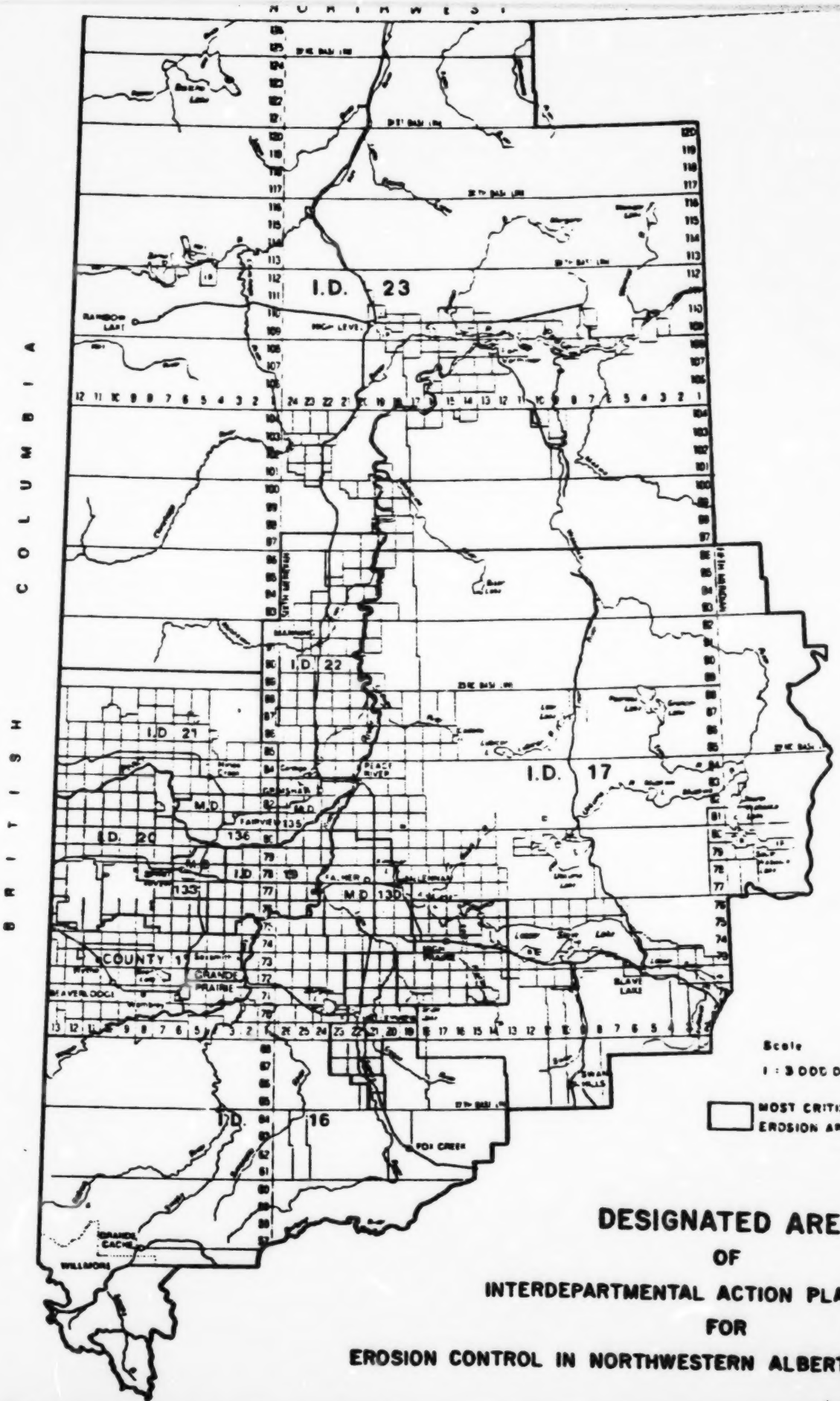
4. Run-off waters tend to concentrate very quickly into relatively large streams, in much the same way as run-off from a paved parking lot becomes concentrated in the catch basins.

5. The large streams of water, which are saturated with suspended solids, may then rush down into the deeply-incised major drainage system, cutting the sides of the valleys and causing slumping and mass - wasting where the stream profile is steep. Conversely, siltation may occur where the profile is gradual, and the soil particles, contained in the water flow, are then deposited."

The 1978 Interdepartmental Action Plan, identified designated areas (outlined on the map on the following page) as being most prone to water erosion. The area encompasses virtually all of the Peace Country: Improvement Districts 16, 17, 19, 20, 21, 22 and 23, the Municipal Districts of Smoky, Peace, and Fairview and the County of Grande Prairie. Improvement District 19 and 20 and the M.D. of Spirit River together with the Sunset House area of I.D. 16 and the High Prairie area of I.D. 17 were identified as having the most critical soil erosion control problems.

The topography of the region also adds to the problem. Water runs from the hills onto plain areas and then drops quickly into deep river valleys.

Expanding farmland and road development in the Peace Region accelerates the problem. When the tree cover and natural vegetation is removed, the winter snow pack melts more quickly and the velocity of the run-off increases. The same holds true for rainfall. This is particularly troublesome when clearing takes place on the slope of the hills. The result is increased flooding and erosion on the plains and greater erosion along the streams and river water courses. The grid system of roadways imposed over the natural drainage patterns sometimes creates additional problems. When roads cut across natural drainage routes, they serve to concentrate water volumes. Roads contribute to increased rates of run-off and deposit large amount of water in low areas, sometimes creating temporary flooding.



DESIGNATED AREA

OF

INTERDEPARTMENTAL ACTION PLAN

FOR

EROSION CONTROL IN NORTHWESTERN ALBERTA

Impact of Erosion and Flooding

It is the land-holder or land-user who is first impacted by erosion. On farmland the loss of soil, the creation of gullies and other features of erosion are difficult to assess. But the cost is high! On public lands where disturbances to the land base occur as a result of oil and gas development and forestry activity, the direct consequence of erosion may be the loss of wildlife habitat and erosion of access roads. Roadways and other infrastructure may also be eroded.

Flooding downstream is often the most observable problem. Flooded farmland, and occasionally the flooding in low lying urban areas, creates substantial problems. The flooding and erosion of roads is not an uncommon occurrence. Finally, the velocity of water may change the nature and course of those streams which nature did not design to hold the new peak volumes of water.

A consequence of water erosion is the deposition of silt. Silt may be deposited on flooded fields and in streambeds. Siltation affects the productivity of land and breeding areas of fish. Silt also collects in ditches and culverts along roadways. Finally, silt is often carried along in the major rivers and collects in the delta areas of Lake Claire and Lesser Slave Lake.

Government Response to the Problem

The Interdepartmental Action Plan completed in 1978, has three key elements:

- Recognition of the unique requirements of the Peace Region.
- Interdepartmental coordination efforts by five departments at departmental and regional level.
- Enhanced funding for erosion control projects and a change in the funding formula for municipal erosion control projects.

Interdepartmental Coordination

Five government departments participated on committees at both the departmental and regional level. Environment, Agriculture, Energy and Natural Resources, Municipal Affairs and Transportation have representatives on the Provincial Action Committee on Erosion (PACE) and Regional Action Committee on Erosion (RACE). RACE has recently added two municipal council representatives. The goals of these committees are "to ensure adequate review of departmental program activities lending to surface disturbances, identification of regional erosion problem areas and integrated implementation of corrective measures".

Funding for Erosion Control

Alberta Environment has a lead role in funding erosion control projects. Funding is provided on a cost-sharing basis to municipalities for up to 75% of eligible costs of the project. Appendix B contains Alberta Environment's 1980 Position Paper #5, "Cost Sharing for Water Resource Management Projects", which spells out the details of the program. The position paper contains special erosion control programs for northwestern Alberta. The central features of this program area:

- Alberta Environment pays all engineering and technical costs for qualified projects.

- Alberta Environment provides 75% of the capital and 75% of operation and maintenance costs for the project.

- In instances where previous cost-shared projects require rehabilitation or where projects are deemed to be a "major water management project" such as major river bank stabilization or major flood control projects affecting a large area of the province, Alberta Environment contributes 100% of all cost of the project.

Alberta Agriculture has a funding role for projects that benefit individual farmers. The Soil Conservation Agriculture Program (SCAP) provides funds for filling in gullies and improving watercourse on farms.

B. CURRENT ISSUES AND CONCERNS

1. The Funding Formula

The funding formula changes of 1976 have improved the drainage and erosion situation in northwestern Alberta. Despite these improvements, however, the cost to municipalities remains too high. Generally, the rural municipalities in northwestern Alberta are not wealthy and the required erosion control projects are very expensive. The average cost of large scale projects is $300,000. Most rural municipalities must still build new roads as a first priority of municipal infrastructure. Thus, the combination of a limited tax base, and the high cost of even a 25% share of a drainage program conspires to limit the effectiveness of the program. A vicious circle occurs when failure to deal with an erosion problem in the early stages results in even more erosion and more cost in the future. A number of municipalities have approached the Northern Alberta Development Council to see if the cost share formula can be changed.

Comparisons are often made between the 75-25 funding formula for drainage and the 86-14 formula used for Irrigation District Projects in southern Alberta. This comparison may not necessarily hold because Alberta Environment pays for all engineering costs for drainage projects. In some cases (i.e. small project with high engineering costs) the government's cost-share may be greater than noted.

Another idea for change that is currently under consideration suggests that funding for municipalities should be based upon their ability to pay. A formula, using perhaps equalized assessment figures is proposed by some for calculating cost-share proportions.

It is also the feeling of the Northern Alberta Development Council that a defined allocation from the Heritage Savings Trust Fund is required to provide the necessary funding for a concerted effort in drainage enhancement and erosion control in northern Alberta.

2. Priority Setting and Planning

Another broad issue that has been raised during this review is that of overall planning and priority setting. Some municipalities have undertaken studies to inventory problem situations within their jurisdictions and to develop a list of possible priorities. Brief #1249 to the Northern Alberta Development Council from the Municipal District of Peace is the most recent example of a brief asking for NADC assistance or support to initiate these types of studies.

Most northern municipalities, however, carry-out erosion planning and priority setting on a more or less ad hoc basis. There appears to be clear rationale for a more systematic approach to identifying municipal priorities, coordinated through the responsible government department.

C. NORTHERN ALBERTA DEVELOPMENT COUNCIL RECOMMENDATIONS

The Northern Alberta Development Council would recommend that, in order to enhance progress on drainage and erosion control in northern Alberta, the Provincial Government consider:

1. Setting aside an allocation of $200 million from the Alberta Heritage Savings Trust Fund to undertake drainage and erosion control projects in northern Alberta over a five to ten year period.

2. Amending the cost-sharing formula with municipalities for drainage and erosion control projects in northwestern Alberta to 90/10.

3. Providing additional resources as needed to Alberta Environment and/or other departments to undertake the necessary detailed, coordinated long range planning, with adequate provision for municipal and public input.

APPENDIX "A"

INTERDEPARTMENTAL ACTION PLAN

EROSION CONTROL IN NORTHWESTERN ALBERTA

ENVIRONMENT

403 427 [illegible]

14th Floor Oxbridge Place
9820 106 Street
Edmonton Alberta Canada
T5K 2J6

Office of
the Deputy Minister

APRIL 12, 1978.

HONOURABLE D. J. RUSSELL,
MINISTER,
ALBERTA ENVIRONMENT,
222 LEGISLATIVE BUILDING,
EDMONTON, ALBERTA.

DEAR MR. RUSSELL:

RE: EROSION CONTROL IN NORTHWESTERN ALBERTA
INTERDEPARTMENTAL ACTION PLAN

PURSUANT TO YOUR DIRECTION, I HAVE THE PLEASURE OF SUBMITTING AN ACTION PLAN PREPARED BY REPRESENTATIVES OF THE DEPARTMENTS OF AGRICULTURE, ENERGY AND NATURAL RESOURCES, ENVIRONMENT, MUNICIPAL AFFAIRS AND TRANSPORTATION.

THE REPORT HAS BEEN REVIEWED BY THE UNDERSIGNED, APPROVED AND ACCEPTED AS THEIR DEPARTMENTS INTENTION TO PROCEED AS RECOMMENDED SUBJECT TO THE GOVERNMENT'S DIRECTION.

YOURS VERY TRULY,

W. SOLODZUK, P. ENG.,
DEPUTY MINISTER.

REVIEWED, APPROVED AND ACCEPTED:

DR. J. O'DONOGHUE,
DEPUTY MINISTER OF AGRICULTURE

C. E. PAQUIN,
ACTING DEPUTY MINISTER OF ENERGY AND NATURAL RESOURCES

W. D. ISBISTER,
DEPUTY MINISTER OF MUNICIPAL AFFAIRS

R. H. CRONKHITE,
DEPUTY MINISTER OF TRANSPORTATION

Interdepartmental Action Plan

Erosion Control in Northwestern Alberta

PREPARED BY

H. W. Thiessen, Chairman	ADM, Environment
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INTERDEPARTMENTAL ACTION PLAN
WITH RESPECT TO THE E.C.A.
RECOMMENDATIONS ON EROSION IN NORTHWESTERN ALBERTA

1.0 INTRODUCTION

APPROXIMATELY 200 CITIZENS PETITIONED THE ENVIRONMENT CONSERVATION AUTHORITY IN 1974 TO HOLD HEARINGS ON SOIL EROSION IN NORTHWESTERN ALBERTA. THE PEACE RIVER REGIONAL AGRICULTURAL SERVICE BOARD CONFERENCE IN 1974, AND THE AGRICULTURAL SERVICE BOARD CONFERENCE IN FEBRUARY 1975 SUPPORTED THIS PETITION WHICH CULMINATED IN THE FIRST PUBLIC HEARING AT MANNING ON JANUARY 12, 1976.

THE ENVIRONMENT CONSERVATION AUTHORITY REPORT AND RECOMMENDATIONS WERE SUBMITTED TO THE MINISTER OF THE ENVIRONMENT IN NOVEMBER 1976. ON MARCH 22, 1977 A MOTION BY MR. SHABEN, M.L.A., LESSER SLAVE LAKE, WAS CARRIED IN THE ALBERTA LEGISLATURE WHICH READ: "BE IT RESOLVED THAT THE LEGISLATIVE ASSEMELY OF ALBERTA URGE THE GOVERNMENT TO IMPLEMENT THE RECOMMENDATIONS CONTAINED IN THE ENVIRONMENT CONSERVATION AUTHORITY REPORT ON EROSION OF LAND IN NORTHWESTERN ALBERTA".

IN OCTOBER 1977, AFTER CONSIDERABLE INTERDEPARTMENTAL REVIEW OF THE ENVIRONMENT CONSERVATION AUTHORITY REPORT, THE CONSERVATION AND UTILIZATION COMMITTEE CONCLUDED THAT 68 OF THE 77 RECOMMENDATIONS MADE BY THE ENVIRONMENT CONSERVATION AUTHORITY WERE ALREADY BEING IMPLEMENTED TO VARYING DEGREES BY GOVERNMENT DEPARTMENTS. NINE OTHERS WERE CONSIDERED IMPRACTICAL OR NOT FEASIBLE. THE COMMITTEE'S SUMMARY CONCLUSIONS EMPHASIZED THAT: 1) LACK OF INTEGRATION AND CO-ORDINATION, 2) COMPLEX ADMINISTRATIVE

PROCEDURES, AND 3) INSUFFICIENT FUNDING AND THE DISTRIBUTION OF THAT FUNDING WERE THE PRIMARY FACTORS IN ADDRESSING THE CHALLENGES OF EROSION CONTROL IN NORTHWESTERN ALBERTA.

ON DECEMBER 15, 1977 THE DEPUTY MINISTER OF ENVIRONMENT CONVENED A MEETING OF DEPUTY MINISTERS OF AGRICULTURE, ENERGY AND NATURAL RESOURCES, MUNICIPAL AFFAIRS AND TRANSPORTATION FOR THE PURPOSE OF DEFINING AN INTER-DEPARTMENTAL ACTION PLAN WHICH WOULD RESULT IN AN EFFECTIVE EROSION CONTROL PROGRAM. A TASK FORCE COMPRISED OF REPRESENTATIVES FROM AGRICULTURE, ENERGY AND NATURAL RESOURCES, ENVIRONMENT, MUNICIPAL AFFAIRS AND TRANSPORTATION, WITH THE ASSISTANCE OF THEIR REGIONAL STAFF IN THE PEACE RIVER BLOC SUPPLEMENTED WITH REPRESENTATIVES FROM RECREATION, PARKS AND WILDLIFE AND THE PEACE RIVER REGIONAL PLANNING COMMISSION PREPARED THE FOLLOWING ACTION PLAN.

1.1 ACTION PLAN IN RELATIONSHIP TO E.C.A. RECOMMENDATIONS

THE ENVIRONMENT CONSERVATION AUTHORITY REPORT MADE 77 RECOMMENDATIONS DEALING WITH A WIDE VARIETY OF TOPICS SUCH AS SOIL MANAGEMENT, WATER RESOURCES, TRANSPORTATION, PROBLEM WILDLIFE, NEW SETTLEMENTS, THE SWAN HILLS, FLOODING OF KINUSO, STABILIZATION OF LESSER SLAVE LAKE, INTERDEPARTMENTAL CO-ORDINATION AND CITIZEN PARTICIPATION.

FOR THE PURPOSES OF THIS ACTION PLAN ONLY THE EROSION PROBLEMS IN THE PREDOMINANTLY SETTLED AREAS IN THE PEACE RIVER BLOC IS BEING ADDRESSED. ALTHOUGH THE ENVIRONMENT CONSERVATION AUTHORITY ALSO REPORTED ON THE EROSION FROM INDUSTRIAL OPERATIONS IN THE SWAN HILLS AND THE STABILIZATION OF

LESSER SLAVE LAKE, THE PRIMARY EMPHASIS OF THIS ACTION PLAN IS ON DEVELOPING AN EFFECTIVE EROSION CONTROL PROGRAM FOR THE SETTLED AREAS WHERE EROSION FROM THE PREDOMINANTLY AGRICULTURAL OPERATIONS AND THE INFRASTRUCTURE DEVELOPMENTS RELATING TO THE SERVICING OF THOSE LANDS IS EVIDENT.

THE ALBERTA FOREST SERVICE IS ALREADY CONTINUING THE EROSION CONTROL AND RECLAMATION WORK STARTED EARLIER THROUGH INTERDEPARTMENTAL ACTION IN THE SWAN HILLS. THE ENGINEERING SUPPORT SERVICE IS CARRYING OUT SPECIFIC ACTIVITIES WITH RESPECT TO LESSER SLAVE LAKE. FOR THESE REASONS THESE TWO AREAS HAVE NOT BEEN INCLUDED IN THIS ACTION PLAN.

SINCE MOST OF THE RECOMMENDATIONS ARE ALREADY BEING IMPLEMENTED TO VARYING DEGREES BY GOVERNMENT DEPARTMENTS, THIS ACTION PLAN DRAWS AWARENESS TO THOSE ACTIVITIES ALREADY UNDERWAY. IT ALSO IDENTIFIES THOSE ACTIVITIES REQUIRING INTENSIFICATION AND CO-ORDINATION AS WELL AS THE NEW THRUSTS WHICH WILL BE INITIATED IN 1978.

1.2 Boundary Considerations in Relationship to E.C.A. Recommendations

ONE OF THE PRIMARY RECOMMENDATIONS OF THE ENVIRONMENT CONSERVATION AUTHORITY REPORT STATES: "THAT NORTHWESTERN ALBERTA BE RECOGNIZED AS AN AREA THAT DIFFERS FROM THE REST OF ALBERTA IN CHARACTERISTICS AND CONDITIONS RELATED TO EROSION SUSCEPTIBILITY AND THAT AGRICULTURAL PRACTICES AND LAND USE AND WATER MANAGEMENT SYSTEMS SPECIFICALLY SUITED TO THE AREA BE DEVELOPED AND ADOPTED".

SUBSEQUENT RECOMMENDATIONS WHICH RELATE TO THE RECOGNITION OF NORTHWESTERN ALBERTA AS A UNIQUE AREA SUCH AS THE ADJUSTMENT IN THE COST-

SHARING FORMULA ON WATER MANAGEMENT PROJECTS AND PROVIDING SPECIAL MAINTENANCE SERVICES IN THE I.D.'S MUST BE APPLIED TO A SPECIFIC BOUNDARY. IN THIS REGARD THE BOUNDARY UTILIZED FOR THE ENVIRONMENT CONSERVATION AUTHORITY HEARINGS WAS REDRAWN TO ACCOMMODATE THE PROBLEMS AS DEFINED BY PARTICIPANTS TO THE HEARING. IT IS PROPOSED THAT THE OFFICIAL BOUNDARY WHICH WILL APPLY TO THE IDENTIFIED ACTION PLAN IS THAT SHOWN ON THE ATTACHED MAP WHICH IN FACT CLOSELY RESEMBLES THE TRADITIONAL "PEACE RIVER BLOC" AND INCLUDES I.D.'S 16, 17, 19, 20, 21, 22 AND 23; M.D.'S 130, 133, 135 AND 136; AND COUNTY 1.

2.0 INTERDEPARTMENTAL COMPONENTS OF ACTION PLAN

IN ORDER TO EMPHASIZE THE RECOGNITION THAT THE PEACE RIVER BLOC DOES HAVE UNIQUE EROSION SUSCEPTIBILITY PROBLEMS AND THAT THE APPLICATION OF UNIVERSAL GOVERNMENT PROGRAMS HAVE NOT BEEN SUFFICIENTLY EFFECTIVE EITHER BECAUSE OF:

(A) UNIVERSAL APPLICATION OF A PROVINCIAL PROGRAM TO A UNIQUE REGION,

(B) INSUFFICIENT LEVEL OF FUNDING BY MUNICIPAL GOVERNMENTS TO ADDRESS THE MAGNITUDE OF THE PROBLEM,

(C) LACK OF PRIORITY SETTING TO ADDRESS THE MOST CRITICAL AREAS FIRST,

(D) COMPLEX ADMINISTRATIVE PROCEDURES BETWEEN PROVINCIAL GOVERNMENT DEPARTMENTS AND MUNICIPAL GOVERNMENTS,

(E) LACK OF INTEGRATION OF DEPARTMENTAL PROGRAM OBJECTIVES WITH OTHER DEPARTMENT PROGRAMS,

(F) LACK OF PROGRAM IMPLEMENTATION CO-ORDINATION AT THE REGIONAL LEVEL.

(G) LACK OF REGIONAL AND PROVINCIAL PROGRAM CO-ORDINATION.

(H) LACK OF SUFFICIENT UNDERSTANDING BY THE PUBLIC OF EROSION CONTROL METHODOLOGY AND ASSISTANCE.

THE FOLLOWING INTERDEPARTMENTAL RECOMMENDATIONS ARE PROPOSED.

3.0 DEPARTMENTAL COMPONENTS OF ACTION PLAN BEING RECOMMENDED

1. IMPROVEMENT DISTRICTS NUMBER 16, 17, 19, 20, 21, 22 AND 23; MUNICIPAL DISTRICTS NUMBER 130 (SMOKY RIVER), 133 (SPIRIT RIVER), 135 (PEACE) AND 136 (FAIRVIEW); AND COUNTY NUMBER 1 (GRANDE PRAIRIE) BE OFFICIALLY RECOGNIZED BY THE GOVERNMENT AS HAVING UNIQUE SOIL CONSERVATION, EROSION SUSCEPTIBILITY AND RECLAMATION CHARACTERISTICS REQUIRING SPECIAL REGIONAL ATTENTION AS PROPOSED IN THE ACTION PLAN.

2. THE REVISION GENERALLY OF VARIOUS 50/50 OR 60/40 PROVINCIAL/MUNICIPAL SOIL CONSERVATION, EROSION CONTROL OR DRAINAGE CONSTRUCTION PROGRAMS TO 75/25 STARTING IN 1978. FURTHERMORE, IN SPECIAL CASES THERE MAY BE A NEED TO NEGOTIATE A HIGHER OR TOTAL PROVINCIAL COST-SHARING ARRANGEMENT WHERE THE DEPARTMENT IS OF THE OPINION THAT CIRCUMSTANCES WARRANT IT AND THE MUNICIPAL GOVERNMENT DOES NOT HAVE THE ABILITY TO PAY.

3. IMPROVEMENT DISTRICTS NUMBER 19 AND 20, THE SUNSET HOUSE AREA OF I.D. 16, THE HIGH PRAIRIE AREA OF I.D. 17 AND MUNICIPAL DISTRICT NUMBER 133 (SPIRIT RIVER) HAVING THE MOST CRITICAL EROSION CONTROL

PROBLEMS BE GIVEN THE HIGHEST INITIAL PRIORITY.

4. THE ESTABLISHMENT OF A PROVINCIAL INTERDEPARTMENTAL CO-ORDINATING COMMITTEE WITH REPRESENTATION FROM AGRICULTURE, ENERGY AND NATURAL RESOURCES, ENVIRONMENT, MUNICIPAL AFFAIRS AND TRANSPORTATION TO ENSURE THE INTEGRATION AND CO-ORDINATION OF INTER-DEPARTMENTAL AND INTER-GOVERNMENTAL PROGRAM OBJECTIVES.

5. THE ESTABLISHMENT OF A REGIONAL INTERDEPARTMENTAL IMPLEMENTATION COMMITTEE WITH REPRESENTATION FROM AGRICULTURE, ENERGY AND NATURAL RESOURCES, ENVIRONMENT, MUNICIPAL AFFAIRS, RECREATION, PARKS AND WILDLIFE AND TRANSPORTATION TO ENSURE ADEQUATE REVIEW OF DEPARTMENTAL PROGRAM ACTIVITIES LEADING TO SURFACE DISTURBANCES, IDENTIFICATION OF REGIONAL EROSION PROBLEM AREAS, AND INTEGRATED IMPLEMENTATION OF CORRECTIVE MEASURES.

6. IMPLEMENTATION OF AN ACTIVE EDUCATIONAL AND PUBLIC PARTICIPATION PROGRAM TO CREATE THE NECESSARY PUBLIC AWARENESS OF THE CAUSES OF EROSION, THE MEANS OF PREVENTING EROSION AND THE TECHNICAL AND FINANCIAL ASSISTANCE TO RECLAIM ERODED LANDS.

7. THE APPLICATION OF THE ALBERTA HERITAGE SAVINGS TRUST FUND LAND RECLAMATION PROGRAM WHERE APPROPRIATE TO QUALIFYING RECLAMATION PROJECTS IN 1978, I.E., EROSION FROM INDUSTRIAL OPERATIONS, ROADWAYS, PIPELINES, SEISMIC LINES, SAND AND GRAVEL OPERATIONS, ETC. WITH SPECIFIC PROGRAM EXPANSION IN 1979 WHERE FEASIBLE. THIS EXPANSION WOULD BE ESPECIALLY APPLICABLE TO WATER CAUSED EROSION PROBLEMS

OCCURRING FROM AGRICULTURAL AND FORESTRY OPERATIONS WHICH ARE CURRENTLY EXEMPTED.

3.1 DEPARTMENT OF AGRICULTURE

CURRENT ACTION

1. SOIL CONSERVATION ACT 1962

THIS ACT PROVIDES FOR MUNICIPAL GOVERNMENT BYLAWS AND IS ENFORCED BY THE MUNICIPAL AUTHORITY. IT IS USED PRIMARILY AS A DETERRENT WITH RESPECT TO POOR SOIL MANAGEMENT PRACTICES AND HAS GENERALLY BEEN USED ONLY IN TIMES OF EMERGENCY.

2. SOIL CONSERVATION AGRICULTURE PROGRAM (S.C.A.P.)

THIS PROGRAM WHICH BEGAN IN 1971 PROVIDES $150,000 ANNUALLY ON A 60/40 COST-SHARING BASIS TO A MAXIMUM OF $20,000 FOR ANY ALBERTA MUNICIPAL GOVERNMENT. THE PURPOSE OF THE PROGRAM IS TO CONTROL SOIL EROSION BY FILLING IN GULLIES AND IMPROVING WATERCOURSES ON THE FARM UNIT. IN 1977 GRANTS ALLOCATED TO THE REGION TOTALLED $76,000 BUT ONLY $31,000 WAS ACTUALLY EXPENDED BECAUSE OF ADVERSE WEATHER CONDITIONS.

3. SCRAPER GRANT PROGRAM

GRANTS ADMINISTERED THROUGH THE AGRICULTURAL SERVICE BOARD PROVIDE 60/40 COST-SHARING TO MUNICIPAL GOVERNMENTS FOR THE PURCHASE OF FARM TRACTOR DRAWN SCRAPERS TO BE UTILIZED FOR EROSION CONTROL WORK ON THE FARM UNIT.

4. FARM SHELTERBELT PROGRAM

PRIMARILY USED TO PREVENT WIND EROSION AROUND FARMSTEADS. TREES ARE PROVIDED FREE TO FARMERS WHO APPLY 6 TO 12 MONTHS IN ADVANCE OF PLANTING, AT THE LOCAL AGRICULTURE OFFICE.

5. EDUCATIONAL PROGRAMS

DISTRICT AGRICULTURISTS AND REGIONAL ENGINEERS ARE CONTINUALLY AVAILABLE TO COUNSEL AND ADVISE THE FARMERS WITH RESPECT TO SOIL EROSION CONTROL MEASURES ON THE FARM UNIT.

PROPOSED THRUSTS

1. SOIL CONSERVATION AGRICULTURE PROGRAM (S.C.A.P.)

INCREASE COST-SHARING FORMULA FROM 60/40 TO 75/25 WITHIN THE REGION WITH PRIORITY BEING PLACED ON THE IDENTIFIED CRITICAL AREAS AND ENCOURAGE ITS USE TO A GREATER EXTENT.

2. SCRAPER GRANT PROGRAM

ENCOURAGE ALL MUNICIPAL GOVERNMENTS WITHIN THE REGION TO PURCHASE FARM TRACTOR DRAWN SCRAPERS FOR THE ONFARM UNIT EROSION CONTROL WORK.

3. SOILS HOME STUDY COURSE

TO BE LAUNCHED IN REGION 6, IN 1979. THIS INCLUDES 8 HOME STUDY LESSONS, SEMINARS, SMALL STUDY GROUPS AND RADIO BROADCASTS. A SPECIAL CHAPTER ON EROSION WILL BE WRITTEN SPECIFICALLY FOR THIS REGION.

4. PEACE RIVER REGION TILE DRAINAGE PILOT PROJECT

THIS PROJECT WILL ENDEAVOUR TO DRAIN SLOUGHS AND LOWER THE WATER

TABLE WITHOUT UTILIZING SURFACE DITCHES. THIS WILL REDUCE POTENTIAL EROSION AS WELL AS CREATE ADDITIONAL STORAGE IN THE SLOUGHS FOR SUBSEQUENT RUNOFF.

3.2 DEPARTMENT OF ENERGY AND NATURAL RESOURCES

CURRENT ACTION

1. FOREST FIRE CONTROL

CONTINUED IMPROVEMENTS ARE BEING MADE TO FOREST FIRE CONTROL TO LIMIT THE NUMBER OF LARGE BURNS WHICH CAN CAUSE FLOODING AND SILTATION.

2. TIMBER HARVESTING CONTROL

CONTINUED ENFORCEMENT OF STRINGENT TIMBER HARVESTING CONTROLS TO ENSURE THAT CUTTING DOES NOT CAUSE EXCESSIVE STREAM FLOW INCREASES, FLOODING OR SILTATION.

3. REFORESTATION

REFORESTATION IS REQUIRED ON ALL AREAS CUT IN THE GREEN AREA. PINE RIDGE NURSERY, NOW UNDER CONSTRUCTION, WILL INCREASE AVAILABILITY OF SEEDLINGS FOR PLANTING.

4. LOGGING ROAD EROSION CONTROL

IN RECOGNITION OF THE FACT THAT LOGGING ROADS CAN CAUSE SILTATION AND EROSION ON LOCALIZED AREAS, THE FOREST SERVICE HAS UNDERTAKEN A PROGRAM OF INSPECTION LEADING TO REQUIRED REMEDIAL ACTION ON A PRIORITY BASIS.

5. SWAN HILLS EROSION CONTROL

A FOREST SERVICE EMPLOYEE HAS BEEN DESIGNATED TO CONTINUE THE

SWAN HILLS EROSION CONTROL COMMITTEE WORK WITH THE OIL COMPANIES ON A CO-ORDINATED PROGRAM TO CONTINUE REMEDIAL ACTION ON THE REMAINING EROSION PROBLEMS RESULTING FROM OIL AND GAS EXPLORATION AND DEVELOPMENT. THIS EMPLOYEE IS PRESENTLY BASED IN HIGH PRAIRIE AND IS CONCENTRATING ON THE SWAN HILLS AREA.

6. SURFACE RECLAMATION

THE DEPARTMENT HAS PROVIDED ENVIRONMENT WITH AN EXTENSION LIST OF AREAS REQUIRING RECLAMATION, RESULTING FROM OLD ABANDONED OPERATIONS. AS FUNDS ARE MADE AVAILABLE FROM THE ALBERTA HERITAGE SAVINGS TRUST FUND, THE DEPARTMENT WILL SUPERVISE RECLAMATION OF THESE PUBLIC LANDS.

7. SALE OF PUBLIC LANDS

CURTAILMENT OF SALES OF PUBLIC LANDS WHICH ARE SUBJECT TO EROSION, E.G., LANDS WITH CREEKS OR OTHER SIGNIFICANT BODIES OF WATER; LANDS WITH SIGNIFICANT SLOPES; LANDS WITH LIGHT SOILS, ETC.

8. WATERCOURSE AGREEMENTS

LAND WITH INTERMITTENT WATERCOURSES, I.E., MINOR TO MODERATE COULEES, MAY BE SOLD BUT WITH A WATERCOURSE AGREEMENT CAVEAT AGAINST THE TITLE WHICH WILL PROHIBIT SURFACE DISTURBANCE FOR A SPECIFIED DISTANCE ON EACH SIDE OF THE WATERCOURSE AS LONG AS THE TITLE IS HELD BY THE CROWN.

9. PUBLIC LAND MANAGEMENT PROGRAM

(A) CONTROLLED GRAZING ON RIVER BANKS WHERE OVERGRAZING MIGHT CAUSE EROSION.

(B) ENCOURAGE LESSEES OF PUBLIC LAND TO LEAVE STRIPS OF NATURAL COVER FOR EROSION CONTROL.

(c) A VERY IMPORTANT ASPECT OF THE LAND DISPOSITION PROGRAM IS THE IMPOSITION OF SPECIAL CONDITIONS TO PREVENT ANY PRACTICES BY THE HOLDER THAT MIGHT CAUSE EROSION AND THE REQUIREMENT THAT SURFACE DISTURBANCE (OTHER THAN CULTIVATION OR APPROVED CLEARING) MUST BE RECLAIMED IN A SATISFACTORY MANNER. DISPOSITIONS ARE MONITORED TO ENSURE CONDITIONS ARE ADHERED TO AND RECLAMATION IS CARRIED OUT.

(D) A CAREFULLY CONTROLLED RANGE IMPROVEMENT PROGRAM WHICH ALLOWS CLEARING ONLY IN KEEPING WITH THE LAND CONSERVATION GUIDELINES.

10. GRAZING RESERVE CLEARING PROGRAM

THE GRAZING RESERVE CLEARING PROGRAM FOLLOWS A CAREFULLY PREPARED OPERATION PLAN IN WHICH NOT MORE THAN AN AVERAGE OF 60% OF THE NATURAL COVER IS CLEARED ON THE RESERVE. THE LAND CONSERVATION GUIDELINES ARE FOLLOWED.

PROPOSED THRUSTS

1. PUBLIC LAND PLANNING

THE LAND USE ASSIGNMENT COMMITTEE IS BEING REPLACED BY A MORE COMPREHENSIVE PLANNING PROCESS. THIS NEW PROCESS WILL PROVIDE FOR BETTER INTERDEPARTMENTAL REVIEW OF PUBLIC LAND PLANS BEFORE PUBLIC LAND DISPOSITIONS ARE MADE.

2. LAND RECLAMATION

WITH THE AVAILABILITY OF RECLAMATION FUNDS UNDER THE HERITAGE SAVINGS TRUST FUND, REMEDIAL RECLAMATION OF SURFACE DISTUREANCES ON PUBLIC LANDS CAUSING EROSION WILL BE ACCELERATED.

3.3 Department of Environment

Current Action

1. Basin Planning

Senior basin planners have been appointed to the Peace River Basin and Athabasca Basin to direct the overall water resources planning for those basins and ensure that there is no conflict with land use planning.

2. Environmental Impact Assessment Requirements

Environmental impact assessment reports may be obtained for new projects where substantive surface disturbance and potential erosion problems are a factor.

3. Regional Office Services

Regional office services will continue to be extended from Peace River and Grande Prairie providing technical assistance to municipal governments and individual landowners with respect to erosion control.

4. Upgrading Existin. Projects

Continue to upgrade existing projects where erosion has been identified as a problem such as the East-West Prairie Rivers. It is anticipated that expenditures in the order of $500,000 will be made during 1978 in this particular area.

5. Lesser Slave Lake Land Purchase Policy

Studies with respect to Lesser Slave Lake stabilization and the current policy of purchasing flood prone lands will be finalized

AND DECISIONS MADE BY GOVERNMENT.

6. LAND RECLAMATION PROGRAM

VARIOUS INDUSTRIAL SITES, INCLUDING EROSIONAL AREAS, ARE BEING RECLAIMED IN THE REGION AS PART OF THE HERITAGE SAVINGS TRUST FUND CAPITAL PROJECTS WORK.

7. INTERDEPARTMENTAL REFERRAL PROCEDURES

POTENTIAL SURFACE DISTURBANCES CAUSED BY COAL MINING, PIPELINES, TRANSMISSION LINES, GRAVEL PITS, HIGHWAY CONSTRUCTION, AND A VARIETY OF DEVELOPMENTS ADJACENT TO STREAMS AND LAKES ARE REVIEWED PRIOR TO APPROVAL AND MONITORED DURING CONSTRUCTION.

8. SURFACE RECLAMATION CERTIFICATION

THE LAND CONSERVATION AND RECLAMATION COUNCIL MONITORS AND REQUIRES APPROVED SURFACE RECLAMATION OF ALL INDUSTRIAL LAND USES CAUSING SURFACE DISTURBANCES WHICH COULD CAUSE EROSION.

PROPOSED THRUSTS

1. NEW COST-SHARING FORMULA

ALL COST-SHARED PROJECTS UNDERTAKEN WITH THE MUNICIPAL GOVERNMENTS WILL BE CARRIED OUT ON A 75/25 BASIS WHERE EROSION CONTROL IS A SUBSTANTIAL PART OF THE CAPITAL CONSTRUCTION COST. THE EXTRA ANNUAL EXPENDITURE WILL AMOUNT TO APPROXIMATELY $100,000.

2. COST-SHARING OF MAINTENANCE WITH MUNICIPAL GOVERNMENTS

THE DEPARTMENT WILL COST-SHARE MAINTENANCE WITH THE MUNICIPAL GOVERNMENTS ON NEW PROJECTS WHERE EROSION CONTROL IS A SUBSTANTIAL

COMPONENT ON THE SAME BASIS AS THE CAPITAL COST.

3. MAINTENANCE OF PROJECTS IN IMPROVEMENT DISTRICTS

THE DEPARTMENT WILL ASSUME MAINTENANCE RESPONSIBILITY IN ALL IMPROVEMENT DISTRICTS IN THE REGION. THE TOTAL 1978 BUDGET WILL BE $472,400 WHICH INCLUDES NINE MORE STAFF. THE DEPARTMENT WILL ASSUME RESPONSIBILITY FOR 90 PROJECTS COMPRISING 280 MILES OF CHANNELIZATION. THE FOLLOWING ACTIVITIES WILL BE UNDERTAKEN:

(A) UPGRADE AND REHABILITATE THE PRESENT PROJECTS TO PROPER ENGINEERING STANDARDS AT 100% PROVINCIAL COST AT APPROXIMATELY $250,000.

(B) CONTINUE TO PROVIDE PERSONNEL TO MAINTAIN THE UPGRADED PROJECTS IN THE FUTURE, 25% COSTS BEING BORNE BY THE IMPROVEMENT DISTRICT. THIS WILL COST APPROXIMATELY $222,400.

4. SWAN DELTA FLOOD CONTROL PROJECT

THIS PROJECT INVOLVES CONSTRUCTION OF A DYKE ALONG THE SWAN RIVER TO PROTECT HOMES NEAR THE VILLAGE OF KINUSO AND THE WATER SUPPLY RESERVOIR.

5. LESSER SLAVE LAKE OUTLET

THERE ARE TWO PROPOSALS BEING STUDIED:

(A) EXCAVATION OF SAULTEAUX RAPIDS, OUTLET WEIR AND GROINS AT AN ESTIMATED COST OF 3.03 MILLION DOLLARS.

(B) CONSTRUCTION OF CANAL, WEIR AND RELATED WORKS AT AN ESTIMATED COST OF 8.8 MILLION DOLLARS.

6. WATER LICENSING AND PERMITTING REQUIREMENTS

THIS REQUIREMENT WILL BE DECENTRALIZED TO THE REGION AND SIMPLIFIED IN ORDER THAT REGIONAL TECHNICIANS WILL BE ABLE TO PROVIDE TECHNICAL ADVICE AND REGULATORY APPROVAL AT THE SAME TIME.

7. SELECTED EROSION CONTROL DEMONSTRATION PROJECTS

SMALL SCALE EROSION CONTROL DEMONSTRATION PROJECTS ARE BEING PLANNED FOR EACH MUNICIPALITY, ESPECIALLY IN THE CRITICAL AREAS. THE WORK WOULD BE CARRIED OUT IN CO-OPERATION WITH AGRICULTURE AND THE AGRICULTURAL SERVICE BOARDS. THE OBJECTIVE WOULD BE TO DEMONSTRATE TO LOCAL LANDOWNERS HOW STRUCTURES CAN BE EFFECTIVELY USED ON ERODING WATERCOURSES AND DITCHES IN AN ECONOMICAL MANNER.

8. EROSION CONTROL AND RECLAMATION LABOUR

IT IS INTENDED THAT WHERE PRACTICAL, UNSKILLED LABOUR COULD BE PROVIDED BY THE SOLICITOR GENERAL'S DEPARTMENT FROM THE PEACE RIVER CORRECTIONAL INSTITUTE. THEY WOULD BE UNDER THE TECHNICAL DIRECTION OF DEPARTMENTAL TECHNICIANS AND CARRY OUT DUTIES THAT LEND THEMSELVES TO UNSKILLED LABOUR.

3.4 DEPARTMENT OF MUNICIPAL AFFAIRS

CURRENT ACTION AND PROPOSED THRUSTS

THE DEPARTMENT IS ONLY INVOLVED OR CONCERNED WITH EROSION CONTROL IN THE AREAS WHERE THE MINISTER IS THE MUNICIPAL AUTHORITY, I.E., IN IMPROVEMENT DISTRICTS.

THE IMPROVEMENT DISTRICTS' SOURCES OF FUNDING ARE NOT CHIEFLY FROM

PROVINCIAL FUNDS BUT THAT OF TAXATION AND OTHER MUNICIPAL REVENUE. AS THIS DEPARTMENT IS THE MUNICIPAL AUTHORITY FOR THE GREATER PART OF THE REGION, IT IS VERY INTERESTED IN THE TOPIC OF EROSION CONTROL AND DRAINAGE OF LAND FOR FUTURE USE AS AGRICULTURAL OR GRAZING LANDS.

1. AGRICULTURAL SERVICE BOARDS AND AGRICULTURAL OFFICERS

THROUGH THE AGRICULTURAL SERVICE BOARDS AND AGRICULTURAL OFFICERS, THE DEPARTMENT PROPOSES TO TAKE ADVANTAGE OF ALL PROGRAMS OFFERED BY THE DEPARTMENT OF AGRICULTURE RELATING TO EROSION CONTROL INCLUDING SOIL CONSERVATION, TREES FOR SHELTERBELTS, EDUCATIONAL PROGRAMS, ETC.

2. ENVIRONMENT DRAINAGE PROGRAMS

THE DEPARTMENT HAS BEEN INVOLVED IN MANY DRAINAGE PROGRAMS IN THE IMPROVEMENT DISTRICTS OVER THE PAST FEW YEARS. PROGRAMS UNDERTAKEN WERE RATHER SMALL IN DIMENSION BECAUSE OF FINANCING RESTRAINTS ON THE IMPROVEMENT DISTRICTS. PREVIOUSLY, ALL PROJECTS UNDERTAKEN WERE FINANCED OUT OF THE GENERAL REVENUE OF THE IMPROVEMENT DISTRICTS AND NOT AS A LOCAL IMPROVEMENT RECOVERED FROM THE PROPERTIES WHICH DERIVED BENEFIT.

IT IS THE POLICY OF THIS DEPARTMENT, IN DEALING WITH SERVICES TO A PROPERTY, THAT THE PORTION OF THE PROJECT BE RECOVERED FROM THE BENEFITING PROPERTIES. THE MUNICIPAL GOVERNMENT OR TAXATION ACT DOES NOT PROVIDE AN ADEQUATE FORMULA FOR ASSESSMENT AND RECOVERY

OF FUNDS APPROPRIATE TO A DRAINAGE PROJECT.

WITH THE PROPOSED CHANGES IN COST-SHARING TO 75/25, IT IS THE DEPARTMENT'S INTENTION TO UNDERTAKE MANY MORE PROJECTS. THE DEPARTMENT WILL DEVELOP APPROPRIATE ALTERNATIVE MECHANISMS TO IMPLEMENT THESE PROJECTS.

3. ROAD PROGRAMS

IN IMPROVEMENT DISTRICTS THE ALBERTA TRANSPORTATION DEPARTMENT IS THE ROAD AUTHORITY, WITH MUNICIPAL AFFAIRS ACTING IN AN ADVISORY CAPACITY. THE DEPARTMENT WILL CONTINUE TO CO-OPERATE WITH THAT DEPARTMENT IN ITS DEALINGS WITH DRAINAGE AND EROSION PROBLEMS.

3.5 DEPARTMENT OF TRANSPORTATION

CURRENT ACTION

1. ROUTE LOCATION

THE "HIGHWAY REFERRAL SYSTEM" FACILITATES AN INTERDISCIPLINARY APPROACH TO ROUTE LOCATION PLANNING AND AFFORDS OPPORTUNITY FOR DEPARTMENTS AND AGENCIES TO REVIEW PLANS AND PROPOSALS AND IDENTIFY ITEMS OF CONCERN PRIOR TO THE DESIGN AND CONSTRUCTION OF A ROAD FACILITY. ALTERNATIVES ARE INVESTIGATED AND EVALUATED TO MINIMIZE ADVERSE CONSEQUENCE OF EVENTUAL SURFACE DISTURBANCES, CRITERIA FOR DESIGN AND LOCATION OF PROTECTIVE WORKS ARE IDENTIFIED, AND GUIDE-LINES FOR EROSION CONTROL AND REVEGETATION OF DISTURBED AREAS ARE OUTLINED.

2. ROADWAY DESIGN

DRAINAGE RECEIVES EXPLICIT ATTENTION DURING THE DESIGN STAGE OF PROJECTS AND LOCATIONS FOR EROSION PROTECTIVE WORKS SUCH AS RIP-RAP, SPILLWAY APRONS, DITCH PAVING AND DOWNDRAINS, ARE IDENTIFIED FOR INSTALLATION WHEN CONSTRUCTION IS UNDERTAKEN. SLOPE RATIOS ON EMBANKMENTS AND EXCAVATIONS ARE MAINTAINED AS FLAT AS POSSIBLE TO MINIMIZE EROSION AND FACILITATE REVEGETATION AND MAINTENANCE AFTER CONSTRUCTION.

3. RIVER AND STREAM CROSSING DESIGN

COMPREHENSIVE INVESTIGATIONS ARE CARRIED OUT IN RESPECT TO BANK STABILITY, ERODABILITY OF MATERIALS AND REGIME CHARACTERISTICS FOR CROSSING LOCATIONS OF STREAMS AND RIVERS AND DETAILS FOR SPURS, DYKES, GUIDEBANKS, CHANNEL IMPROVEMENTS AND BANK AND SLOPE PROTECTION ARE PROVIDED FOR CONSTRUCTION WHEN THE PROJECT IS UNDERTAKEN.

4. CONSTRUCTION

EROSION PROTECTIVE WORKS OF THE TYPE AND AT LOCATION AS SPECIFIED, AND SUPPLEMENTED WHERE REQUIRED, ARE PROVIDED AT THE TIME OF CONSTRUCTION. FOLLOWING COMPLETION OF CONSTRUCTION, EMBANKMENTS AND ALL DISTURBED AREAS ARE REVEGETATED.

5. MAINTENANCE

DRAINAGE STRUCTURES ARE INSPECTED PERIODICALLY AND MAINTAINED IN GOOD FUNCTIONABLE CONDITION. EROSION OCCURRING FOLLOWING REVEGETATION IS CORRECTED AS AND WHEN REQUIRED.

Proposed Thrusts

1. Engineering Assistance to Local Governments

Engineering assistance and advice will be extended to road authorities of municipal governments on new construction and on erosion problems which currently exist on the municipalities local road system. Road ditches will be used as drainage ditches in selected areas where adequate engineering and structural work will permit functional and safe use of the roadway.

2. Financial Assistance

Financial responsibility will be assumed for control and abatement of erosion associated with secondary roads as they are constructed within municipalities.

3. Erosion Control Work

Extend the use of provisional grant funds which are allocated annually to municipalities, to include erosion corrective work on existing local roads.

Long Term Planning and Implementation

It is important that certain mechanisms be established now to ensure that continued progress is made by government, industry and farmers on the problem of erosion control in northwestern Alberta. In this respect, the formation of the two interdepartmental committees chaired by Environment should provide this needed impetus.

It is anticipated that the committees will address themselves to challenges

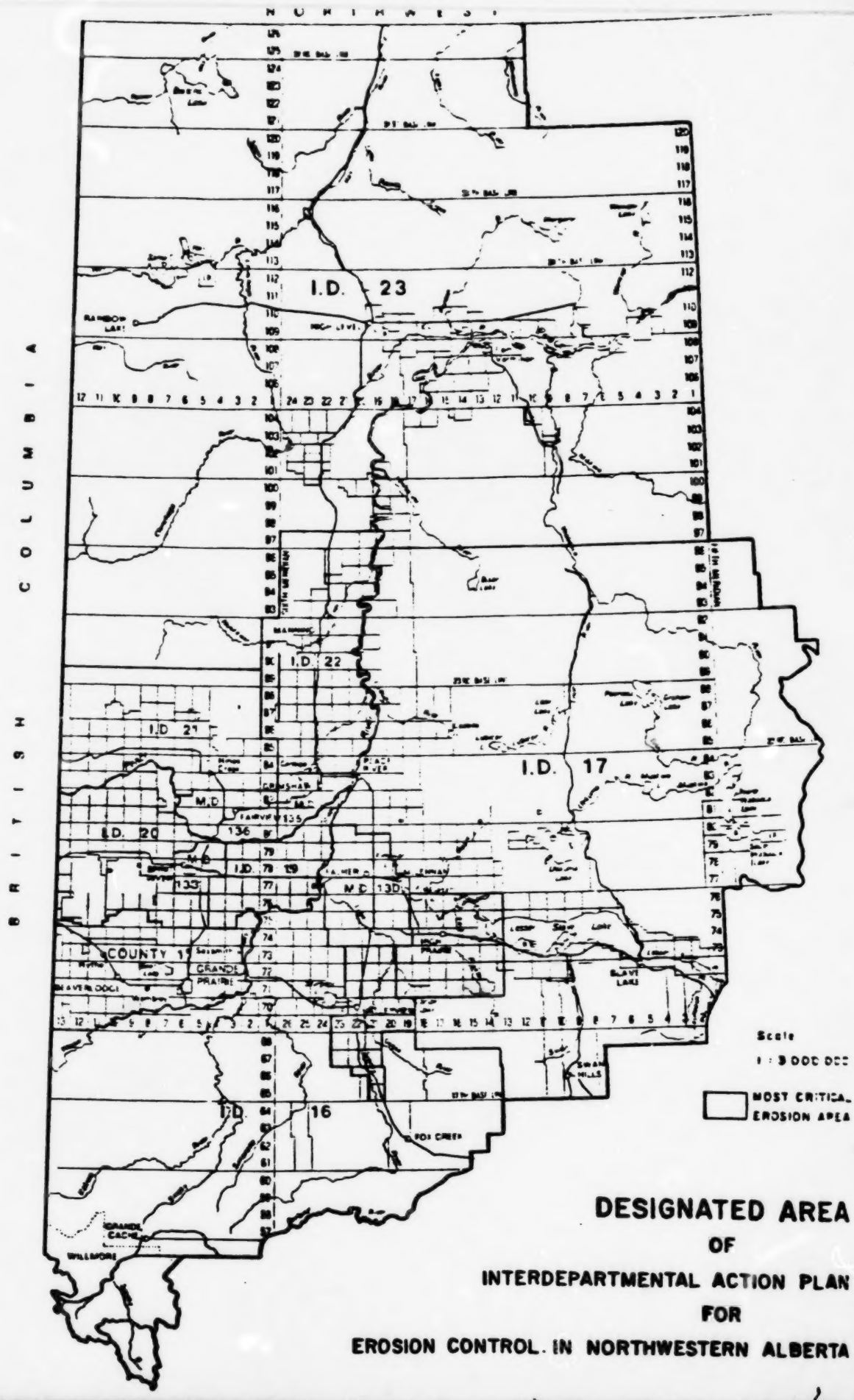
SUCH AS:

1. SETTLEMENT AREAS WHICH WILL TAKE INTO CONSIDERATION SUCH MATTERS AS AGRICULTURAL DEVELOPMENT, TRANSPORTATION AND SERVICING REQUIREMENTS, LAND SURFACE DRAINAGE, CONTOUR PUBLIC ROAD SYSTEMS.

2. LONG RANGE LAND CONSERVATION AND RECLAMATION PROGRAM ACTIVITIES INCLUDING RESTRICTED LAND USE AGREEMENTS, POSSIBLE LEGISLATIVE CHANGES AS WELL AS BETTER INTEGRATION OF PROGRAM ACTIVITIES.

3. IMPLEMENTING PUBLIC AWARENESS AND PUBLIC EDUCATIONAL PROGRAMS IN ORDER THAT LANDOWNERS ARE GIVEN A GREATER OPPORTUNITY TO TAKE THE NECESSARY CORRECTIVE ACTION.

AT THE PRESENT TIME IT IS ENVISAGED THAT AREAS SUCH AS BUDGET REQUIREMENTS AND POSSIBLE NEW STAFFING REQUIREMENTS WILL BE ASSESSED IN GREATER DETAIL WITH A VIEW TOWARDS DEVELOPING A LONG RANGE PROGRAM. IT IS INTENDED THAT DURING 1978, AN INVENTORY OF PROBLEM AREAS WILL BE IDENTIFIED AND A 5 YEAR BUDGET AND SCHEDULE PREPARED FOR IMPLEMENTATION. APPROXIMATELY $15-20 MILLION WORTH OF MAJOR COST-SHARED WORKS HAVE ALREADY BEEN IDENTIFIED, WHEREAS THE DEPARTMENT OF ENVIRONMENT'S 1978-79 BUDGET WOULD PERMIT ABOUT $1 MILLION WORTH OF CONSTRUCTION. SUBSTANTIVE SUMS OF ADDITIONAL CAPITAL WILL BE REQUIRED, PROBABLY FROM THE HERITAGE SAVINGS TRUST FUND.



DESIGNATED AREA
OF
INTERDEPARTMENTAL ACTION PLAN
FOR
EROSION CONTROL IN NORTHWESTERN ALBERTA

APPENDIX B

COST SHARING

FOR

WATER RESOURCE MANAGEMENT PROJECT

POSITION PAPER #5

REVISED 1980

COST-SHARING ON WATER MANAGEMENT PROJECTS
POSITION PAPER #5 REVISED 1980

Several characteristics of the water resource, its mobility, its uneven distribution, and its critical nature for maintenance of life have resulted in water being retained as a public resource. This public ownership of water has in turn resulted in public involvement, through government, in the management of this resource. One management procedure which as been widely adopted is cost-sharing between government and local authorities in water management projects which result in benefit to the general public.

The Government of the Province of Alberta has recognized the need for an equitable, practical, and easily applied policy on financial assistance for cost-sharing on water resource projects. Accordingly the province adopted a policy on Cost-Sharing for Water Management Projects in 1972 entitled Position Paper #5. Since that time several policy changes have been made to address specific concerns. It is now desired to incorporate these policy changes into an updated version of Position Paper #5 and to make other changes to the policy to meet the growing needs of the province in the area of Water Resources Management.

Statement of Policy

The Government of the Province of Alberta is prepared to cost-share with local authorities on water resource management projects from which direct public benefits accrue. "Local authority" means a city, town, new town, village, municipal district, county, or the Minister of Municipal Affairs in the case of an improvement district or special area, or the Board of Directors of an irrigation district, or the Board of Trustees of a drainage district.

In keeping with the objective of formulating an equitable, practical, and easily applied policy the province will provide a grant equal to 75% of the eligible cost of the project.

Costs which are eligible are engineering costs related to project design and construction and capital costs associated with construction. Acquisition of land and operation and maintenance costs will be the responsibility of the local authority except as otherwise established by specific agreement or specified in this policy paper.

Types of Projects

The following types of projects are eligible for assistance, provided:

1) The project is initiated by a local authority.

2) There is a demonstrated need for the project.

3) The project is in the public interest.

A. Flood Control and Drainage.

B. Flow Regulation.

C. Erosion Control.

D. Water Based Recreation.

E. Fish, Waterfowl and Wildlife Enhancement.

F. Source of Water Supply.

NOTE: For Urban Storm Sewers see special policy #III

For Urban Storm and Sanitary Sewer Outlets see special policy #IV

PROCEDURE FOR ASSISTANCE

The procedure for obtaining assistance under the program is divided into four phases being:

1. Eligibility Phase

   The local authority identifies a particular water resource problem and requests an inspection by the Department of the Environment. The inspection is carried out by the department to determine the nature of the problem and whether or not it is eligible for assistance under the program.

   If it is eligible the results of the inspection are sent to the local authority along with information outlining the department's requirement for a feasibility study of the problem.

2. Feasibility Phase

   The local authority through the use of consultants or their own staff initiates a feasibility study. This study involves an investigation into the alternative solutions to the problem and the preparation of a feasibility report. This report provides a cost estimate and an assessment of the engineering, economic, sociological, and biological aspects of the solution and recommends whether or not it should be implemented.

   During the feasibility study and the preparation of the report the department will provide guidance to the local authority (consultant). This guidance is general in nature as it is not the responsibility of the department to provide engineering input into the study. The local authority (consultant) assumes all responsibility for the technical aspects of the study.

After the report is completed, it is submitted to the department for approval. In submitting the report for approval the local authority officially requests financial assistance from the department for implementation of the project. If approved the project proceeds to the construction phase and a cost-sharing agreement between the local authority and the department is signed.

3. Construction Phase

The local authority (consultant) obtains the required licences or permits and right-of-way or easements for the project. The local authority then proceeds with construction of the project.

Upon completion, an inspection is carried out by the department to ensure that the project is complete and constructed according to the plans.

4. Grant Phase

The local authority submits "As Constructed" plans, and an itemized account of the actual costs. The department then issues the Final Licence or Permit and forwards the grant to the local authority.

The grant is equal to 75% of the construction and engineering costs for the project.

Conditions for Acceptance and Priorities

This financial assistance program does not imply that all projects proposed by local authorities will receive departmental approval for cost-sharing. The condition which will take precedence over all others is the priority for water management established by the provincial government.

Priority of projects will be established by the province based on the availability of funds to undertake water management projects and on the water management objectives set by the government.

This policy is implemented under the authority of The Water Resources Act, and will be administered by the Regional Services Branch, Water Resources Management Division, of the Department of the Environment.

SPECIAL POLICIES

(I) NORTHWEST ALBERTA EROSION CONTROL PROGRAM

This program was established in 1978 in recognition of the unique nature of the area in that it differs from the rest of Alberta in its characteristics and condition related to erosion susceptibility.

The program provides assistance to local authorities (including cities, towns and villages) in the designated area (see figure 1) for the construction of new projects, the rehabilitation of existing projects and operation and maintenance of these projects.

Assistance Provided

- The province will provide all the engineering and technical assistance required by the local authorities in implementing projects qualifying under the program.
- The province will provide a grant to cover 75% of the cost of construction of a project under the program and 75% of the future operation and maintenance costs.

Criteria for Assistance

(1) New Project

In recognition of the erosion susceptibility of the area all projects designed to handle moving water will qualify for assistance under the program with the exception of the provision of storm sewers in urban areas.

(2) Project Rehabilitation - i.e. the rehabilitation of previous cost-shared projects.

a) Improvement Districts - The province will undertake and fund at 100% the rehabilitation of previous cost-shared projects.

b) Counties, Municipal Districts, Cities, Towns, Villages.

Major project rehabilitation will be considered the same as a new project.

Minor project rehabilitation, such as ditch clean out, minor ditch relocation, or replacement of small structures, will be considered the same as maintenance.

(3) Project Maintenance

a) Improvement Districts

(i) New Projects

Once a project is completed a maintenance agreement is signed with the Improvement District to provide for the province to undertake any required maintenance on the project and charge back to the Improvement District 25% of the maintenance costs.

(ii) Rehabilitated Projects

Once a project has been rehabilitated a maintenance agreement will be signed with the Improvement District to provide for maintenance on the same basis as for a new project.

(iii) Existing Projects Not Requiring Rehabilitation

A maintenance agreement is signed with the Improvement District to provide for maintenance on the same basis as for a new project.

b) Organized Local Authorities (OLA) - Counties, Municipal Districts Cities, Towns and Villages

(i) New Projects

Once a project is completed a maintenance agreement is signed with the OLA which provides for the OLA to undertake any required maintenance and the province will reimburse the OLA for 75% of the cost of this maintenance.

(ii) Existing Projects Not Requiring Major Rehabilitation

A maintenance agreement will be signed with the OLA to provide for maintenance on the same basis as a new project.

II MAJOR WATER MANAGEMENT PROJECTS

The department may declare a project "A Major Water Management Project" which is defined as a project which provides wide spread benefits to a large area of the province and can include but is not restricted to the following examples:

a) Large water storage dams or weirs.

b) Major river bank stabilization projects.

c) Major flood control projects.

d) Major multi-purpose use projects which may provide a combination of water supply, flood control, water based recreation or fish and wildlife habitat improvement.

Generally on projects of this nature the province assumes responsibility for all aspects including, engineering, land acquisition, construction, and operation and maintenance, however, the department reserves the right, by agreement to assign certain aspects or a portion of the costs to the benefitting local authorities.

III URBAN STORM SEWERS

The provision of storm sewer facilities in urban communicities is generally considered to be internal servicing and the costs involved are the responsibility of the urban local authority. In recognition of the fact that flooding problems in urban communities can occur as the result of waters originating outside the boundaries of the urban community, the cost of providing the storm sewer facilities to handle waters originating outside the urban boundary will be eligible for assistance under a special policy. This policy does not apply to the development of new areas. Under this policy the urban local authority will be required to:

1) Initiate the project.
2) Provide all engineering services.
3) Obtain all right-of-way required.
4) Assume ownership of and provide all operation and maintenance required.

The Province will provide:

1) A grant upon completion of the project equal to 75% of the eligible engineering and construction costs.

   The eligible engineering and construction costs will be determined by either of the following two methods:

   a) If there is a defined or controlled flow coming into the urban area through a channel or culvert and this flow can specifically be determined, the following method is used. A system is designed to handle this known flow through the urban area. The cost of this system is the eligible cost. The over size cost to handle internal drainage is not eligible.

   b) If the flow originating from outside urban boundaries is not confined to a specific channel the following method will be used which is based on the percentage of runoff.

$$\text{Eligible cost} = \text{Total cost} \times F$$

$$F = \frac{\Sigma\,[(\text{Rural areas}) \times (\text{Rural coefficient})]}{\Sigma\,[(\text{Urban areas}) \times (\text{Urban Coefficient}) + (\text{Rural areas}) \times (\text{Rural Coeff.})]}$$

Σ means the sum of

NOTE: Procedure for obtaining assistance will be the same as for the general policy.

IV URBAN STORM SEWER AND SEWAGE OUTLETS

In order for storm sewer and sewage treatment facilities to function properly their effluent must discharge into an adequate outlet. Sometimes an adequate outlet does not exist within the urban boundaries. Therefore financial assistance will be provided towards the cost of providing an adequate outlet for storm sewer and sewage treatment facilities when work is required outside an urban boundary.

Under this policy the urban local authority will be required to:

1) Initiate the project.
2) Provide all engineering services.
3) Obtain all right-of-way required.
4) Assume ownership and provide all ooeration and maintenance required.

The province will provide:

1) A grant upon completion of the project equal to 75% of the cost of engineering and construction.

NOTE: Procedure for obtaining assistance will be the same as for the general policy.

V DRAINAGE DISTRICTS EXTENTION OF MAIN OUTLET BEYOND DISTRICT BOUNDARIES

In many instances drainage districts must extend drainage works beyond their boundaries to reach an adequate outlet for their main outlet canal. More recently because of increased drainage into a district from road improvement and agricultural land clearing outside its boundaries the point of adequate outlet must be extended beyond its original location when the district was first formed.

Therefore financial assistance will be provided towards the cost of providing an adequate outlet beyond the districts boundaries.

Under this policy the Drainage District will be required to:

1) Initiate the project.

2) Assume ownership of all future operation and maintenance required.

The Province will:

1) Provide all engineering services required for a project.

2) Secure and pay 100% of the cost of any right-of-way required for a project. This right-of-way will be turned over to the Drainage District upon completion of the project.

3) Undertake and pay 100% of the capital construction costs of a project.

TABLE 1

SUMMARY OF COST SHARING ARRANGEMENTS
FOR NEW PROJECTS

PERCENTAGE CONTRIBUTION BY TYPE OF COST

Policy	ENGINEERING		LAND ACQUISITION		CAPITAL CONSTRUCTION		OPERATION AND MAINTENANCE		COMMENTS
	Provincial Government	Local Authority	Provincial Government	Local Authority	Provincial Government	Local Authority	Provincial Government	Local Authority	
1. General Policy Water Management Projects	75	25	0	100	75	25	0	100	
2. Special Policy I North West Alberta Erosion Control Projects	100	0	0	100	75	25	75	25	
3. Special Policy II Major Water Management Projects	100	0	100	0	100	0	100	0	The percentage contribution may be varied by agreement between Department and benefitting local authorities
4. Special Policy III Urban Storm Sewers	75	25	0	100	75	25	0	100	
5. Special Policy IV Urban Storm & Sanitary Sewer	75	25	0	100	75	25	0	100	
6. Special Policy V Drainage Districts main outlet beyond boundaries	100	0	100	0	100	0	0	100	

POOR
QUALITY
ORIGINAL